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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of: Clark, John, et al.	Art Unit: 1643
Serial No.: 09/593,316	Examiner: *[to be assigned]*
Filing Date: June 13, 2000	
For: Animal Tissue For Xenotransplantation	

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

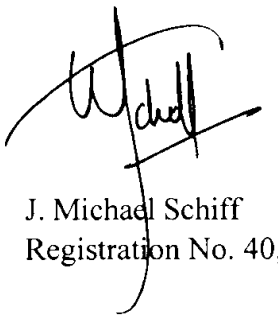
Dear Sir:

The information listed in the accompanying form PTO-1449 and provided herewith may be material to examination of this application and is submitted in compliance with the duty of disclosure under 37 CFR § 1.56. The Examiner is requested to make this information of record in the application.

This Information Disclosure Statement is not to be construed as a representation that a full search for relevant information has been made, that all relevant information has been found, or that the information provided with this Statement is considered to be material to patentability of the claimed invention as defined under 37 CFR § 1.56(b).

It is believed that no fee is required for submission of this Statement, which is filed before the first Office Action on the merits of the application. Nevertheless, should a fee be required for consideration of this Statement and the listed information, the Assistant Commissioner is authorized to charge such fee to Deposit Account No. 07-1139, referencing the attorney Docket Number indicated above.

Respectfully submitted,



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Form 1449 (modified)	Docket: 730/002	S.S.N. 09/593,316
Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	Title: Animal Tissue For Xenotransplantation Inventors: Clark, John, et al. Filing Date: June 13, 2000	Group: 1643

U.S. Patent Documents

Examiner Initial	Ref.	Patent No.	Filing Date	Issue Date	Class/ Subclass	Inventors:	Title:
	A	5,464,764	02/04/93	11/07/95	435/172.3	Capecchi, M.R., et al.	Positive-Negative Selection Methods and Vectors
	B	5,589,369	05/31/94	12/31/96	435/172.3	Seidman, J., et al.	Cells Homozygous For Disrupted Target Loci
	C	5,631,153	06/05/95	05/20/97	435/172.3	Capecchi, M.R., et al.	Cells and Non-Humn Organisms Containing Predetermined Genomic Modifications and Positive-Negative Selection Methods and Vectors For Making Same
	D	5,776,774	10/23/95	07/07/98	435/325	Amara, S., et al.	Amino Acid Transporters and Uses
	E	5,789,215	08/07/97	08/04/98	435/172.3	Berns, A., et al.	Gene Targeting In Animal Cells Using Isogenic DNA Constructs
	F	5,821,117	03/15/94	10/13/98	435/320.1	Sandrin, M.S., et al.	Xenotransplantation Therapies
	G	5,849,991	01/26/95	12/15/98	800/2	D'Apice, A., et al.	Mice Homozygous For An Inactivated α 1,3-Galactosyl Transferase Gene
	H	5,977,079	09/23/97	11/02/99	514/025	Good, A., et al.	Compositions for Attenuating Antibody-mediated Xenograft Rejection in Human Recipients
	I	6,011,197	01/28/99	01/04/00	800/24	Strelchenko, N., et al.	Method of Cloning Bovines Using Reprogrammed Non-Embryonic Bovine Cells
	J	6,020,172	04/20/98	02/01/00	435/91.41	Both, G., et al.	Nucleic Acid Delivery With Ovine Adenoviral Vectors

Foreign Patent or Published Foreign Patent Application

Examiner Initial	Ref.	Document No.	Publ. Date	Juris-diction	Title:	Translation Yes	Translation No
	K	WO 95/28412	10/26/95	PCT	α(1,3) Galactosyltransferase Negative Swine		
	L	WO 95/33828	12/14/95	PCT	Modified Cells and Methods for Inhibiting Hyperacute Rejection of Xenogeneic Transplants		
	M	WO 97/07669	03/06/97	PCT	Quiescent Cell Populations For Nuclear Transfer		
	N	WO 97/11601	04/03/97	PCT	Method for Prevention of Xenograft Rejection by Transplant Recipients		
	O	WO 97/12035	04/03/97	PCT	Transgenic Animals for Xenotransplantation with Reduced Antibody-Mediated Rejection		
	P	WO 97/20035	06/05/97	PCT	Establishment, Maintenance, and Transfection of Totipotent Embryonic Stem Cells From The Embryos of Domestic Animals		
	Q	WO 98/42750	10/01/98	PCT	Antigenic Fusionprotein Carrying Gal.agr.1, 3Gal Epitopes		
	R	WO 98/48005	10/29/98	PCT	Targeted Gene Modification by Parvoviral Vectors		
	S	WO 99/01164	01/14/99	PCT	Cloning Pigs Using Donor Nuclei From Differentiated Cells		
	T	WO 99/19469	04/22/99	PCT	Porcine Stem Cells Comprising A Marker Under An Oct-4 Promoter		

Examiner	Date Considered

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Examiner Initial	Ref.	Document No.	Publ. Date	Juris-diction	Title:	Translation Yes	Translation No
	U	WO 99/21415	05/06/99	PCT	Nuclear Transfer For Production Of Transgenic Animal Embryo		

Other Documents

Examiner Initial	Ref.	Author, Title, Date, Source
	V	Blake, D., et al., "An α-D-Galactosyltransferase Activity in Ehrlich Ascites Tumor Cells", *J. Biol. Chem*, **256**(11):5387-93(1981)
	W	Campbell, K.H.S., et al., "Sheep cloned by nuclear transfer from a cultured cell line", *Nature*, **380**(7):64-66(1996)
	X	Cohney, S., et al., "Down-Regulation of Gal α(1,3) Gal Expression by α1,2-Fucosyltransferase: further characterization of α1,2-fucosyltransferase transgenic mice", *Transplantation*, **64**(3):495-500(1997)
	Y	Cole-Strauss, A., et al., "Correction of the Mutation Responsible for Sickle cel Anemia by an RNA-DNA Oligonucleotide", *Science*, **273**:1386-89(1996)
	Z	Costa, C., et al., "Comparative analysis of three genetic modifications designed to inhibit human serum-mediated cytolysis", *Xenotransplantation*, **6**(1):6-16(1999)
	AA	Costache, M., et al., "Evolution of fucosyltransferase genes in vertebrates", *J Biol Chem*, **272**(47):29721-8(1997)
	AB	Cowley, G., "A Pig May Someday Save Your Life", *Newsweek*, January 1, 2000
	AC	Dabkowski, PL., et al., "Characterization of a cDNA clone encoding the pig α1,3 galactosyltransferase: implications for xenotransplantation", *Transplant Proc*, **25**(5):2921(1993)
	AD	Dabkowski, PL., et al., "Isolation of a cDNA clone encoding the pig α1,3 galactosyltransferase", *Transplant Proc*, **26**(3):1335(1994)
	AE	Galili, U., et al., "Gene sequences suggest inactivation of α-1,3-galactosyltransferase in catarrhines after the divergence of apes from monkeys", *Proc. Natl. Acad. Sci. USA*, **88**:7401-7404(1991)
	AF	Gustafsson, K., "α 1,3galactosyltransferase: a target for in vivo genetic manipulation in xenotransplantation", *Immunol Rev*,**141**:59-70(1994)
	AG	Hasty, P., et al., "Target Frequency and Integration Pattern for Insertion and Replacement Vectors in Embryonic Stem Cells", *Mol Cell Bio*, **11**(9):4509-4517(1991)
	EH	Hasty, P., et al., "The Length of Homology Required for Gene Targeting in Embryonic Stem Cells", Molecular and Cellular Biology, **11**(11):5586-5591 (1991)
	AI	Hayashi, S., et al., "Adenovirus-mediated gene transfer of antisense ribozyme for α (1,3)galactosyltransferase gene and α (1,2) fucosyltransferase gene in xenotransplantation", *Transplant Proc*, **29**(4):2213(1997)
	AJ	Hayes, H., et al., "Localization of ZNF164, ZNF146, GGRA1, SOX2, RPLR and EEF2 on Homoeologous Cattle, sheep and Goat Chromosomes by Fluorescent Situ Hybridization and Comparison with the Human Gene Map", *Cytogenet Cell Genet*, **72**:342-246 (1996)
	AK	Henion, TR., et al., "Defining the minimal size of catalytically active primate α 1,3 galactosyltransferase: structure-function studies on the recombinant truncated enzyme", *Glycobiology*, **4**(2):193-201
	AL	Inoue, N., et al., "High-Fidelity Correction of Mutations at Multiple Chromosomal Positions by Adeno-Associated Virus Vectors", *Journal of Virology*, **73**:7376-7380 (1999)
	AM	Joziasse, DH., et al., "Characterization of an α1→3-Galactosyltransferase Homologue on Human Chromosome 12 That Is Organized as a Processed Pseudogene", *Journal of Biological Chemistry*, **266**(11):6992-6998(1991)
	AN	Joziasse, DH., et al., "Bovine alpha 1----3-galactosyltransferase: isolation and characterization of a cDNA clone. Identification of homologous sequences in human genomic DNA", *J Biol Chem*, **264**(24):14290-7(1989)
	AO	Joziasse, DH., et al., "Murine α 1,3-galactosyltransferase. A Single gene locus specifies four isoforms of the enzyme by alternative splicing", *J Biol Chem*, **267**(8):5534-41(1992)
	AP	Joziasse, DH., et al., "Xenotransplantation: The Importance of the Gal α 1,3Gal epitope in hyperacute vascular rejection", *Biochim Biophys Acta*, **1455**(2-3):403-18(1999)

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	AQ	Katayama, A., et al., "Porcine α -1,3-galactosyltransferase: full length cDNA cloning, genomic organization, and analysis of splicing variants", *Glycoconjugate Journal*, **15**:583-589(1998)
	AR	Koike, C., et al., "Direct Gene Replacement of the Mouse α(1,3)-galactosyltransferase gene with human α (1,2)-fucosyltransferase gene: Converting α -galactosyl epitopes into H Antigens", *Xenotransplantation*, **4**:147-53 (1997)
	AS	Kroshus, TJ., et al., "Expression of human CD59 in transgenic pig organs enhances organ survival in an ex vivo xenogeneic perfusion model", *Transplantation*, **61**(10):1513-21(1996)
	AT	Larsen, R., et al., "Frameshift and Nonsense Mutations in a Human Genomic Sequence Homologous to a Murine UDP-Gal:β-D-Gal(1,4)-D-GlcNAc α(1,3)-Galactosyltransferase cDNA", *Journal of Biological Chemistry*, **265**(12):7055-7061(1990)
	AU	Larsen, R., et al., "Isolation of a cDNA encoding a murine UDPgalactose: β-D-galactosyl-1,4-N-acetyl-D-glucosaminide α-1, 3-galactosyltransferase: Expression cloning by gene transfer", *Proc. Natl. Acad. Sci. USA*, **86**:8227-8231(1989)
	AV	Lavitrano, M., et al., "Xenotransplantation: state of the art", *Forum*, **9**(3 Suppl 3):74-83(1999)
	AW	Link, CJ., et al., "Eliciting hyperacute xenograft response to treat human cancer: α(1,3) galactosyltransferase gene therapy", *Anticancer Res*, **18**(4A):2301-8(1998)
	AX	Loi, P., et al., "Embryo Transfer and Related Technologies in Sheep Reproduction", *Reprod. Nutr. Dev.*, **38**:615-28 (1998)
	AY	Macher et al., "Defining the minimal size of catalytically active primate α 1,3 galactosyltransferase" *Glycobiology*, **4**:193 (1994)
	AZ	McKensie, IFC., et al., "Distribution of the Major Xenoantigen (gal(alpha 1-3) gal) for Pig to Human Xenografts", *Transpl. Immunol*, **2**:81-86(1994)
	BA	Osman, N., et al., "Switching Amino-terminal Cytoplasmic Domains of α (1,2) Fucosyltransferase and α (1,3) Galactosyltransferase Alters the Expression of H Substance and Gal α (1,3) Gal", *J. of Biol. Chem.*, **271**(51):33105-33109(1996)
	BB	Russell, D., et al., "Human Gene Targeting by Viral Vectors", *Nature Genetics*, **18**:325-330 (1998)
	BC	Sandrin, M., et al., "Transgenic approaches for the reduction in expression of Gal α(1,3) Gal for xenotransplantation", *Frontiers in Bioscience*, **2**:e1-11(1997)
	BD	Sharma, A., et al., "Reduction in the level of Gal(α1,3) Gal in transgenic mice and pigs by the expression of an α(1,2) fucosyltransferase", *Proc. Natl. Acad. Sci. USA*, **93**(14):7190-5(1996)
	BE	Shulman, M., et al., "Homologous Recombination in Hybridoma Cells: Dependence on Time and Fragment Length", *Molecular and Cellular Biology*, **10**(9):4466-4472 (1990)
	BF	Smithies, O., et al., "Insertion of DNA Sequences into the Human Chromosomal Beta-Globin Locus by Homologous Recombination", *Nature*, **317**:230-234 (1985)
	BG	Strahan, KM, "Antisense Inhibition of Pig alpha 1,3 galactosyl-transferase Leads to a Reduction in Expression of the Major Target for Human Natural Antibodies on Pig Vascular Endothelial Cells", *Xenotransplantation*, **2**:143-147 (1995)
	BH	Strahan, KM., et al., "cDNA sequence and chromosome localization of pig α 1,3 galactosyltransferase", *Immunogenetics*, **41**(2-3):101-5(1995)
	BI	Strahan, KM., et al., "Pig α 1,3 Galactosyltransferase: a major target for genetic manipulation in xenotransplantation", *Frontiers in Bioscience*, **1**:e34-41(1996)
	BJ	Strahan, KM., et al., "Pig α 1,3 galactosyltransferase: sequence of a full-length cDNA clone, chromosomal localisation of the corresponding gene, and inhibition of expression in cultured pig endothelial cells", *Transplant Proc*, **27**(1):2456-6(1995)
	BK	Strokan, V., et al., "Characterisation of Human Natural Anti-Sheep Xenoantibodies", *Xenotransplantation*, **5**(2):111-121 (1998)
	BL	Tearle, R., et al., "The α-1,3-Galactosyltransferase Knockout Mouse", *Transplantation*, **61**(1):13-19 (1996)

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